

REMARKS

Entry of the foregoing, re-examination and reconsideration of the subject matter identified in caption, as amended, pursuant to and consistent with 37 C.F.R. §1.112, and in light of the remarks which follow, are respectfully requested.

By the present amendment, claim 6 has been amended in response to a rejection under 35 U.S.C. §112. Claims 1, 4-14 and 16-18 are currently pending in this application.

Claim 6 was rejected under 35 U.S.C. §112, second paragraph, for the reason given in paragraph (3) of the Office Action.

In accordance with the Examiner's helpful suggestion, the word "and" was inserted between formulas [S-8] and [S-9]. Accordingly, the rejection has been overcome.

Claims 1, 4-11, 13, 14, 17 and 18 were rejected under 35 U.S.C. §103(a) as unpatentable over Tsutsumi et al (U.S. Patent No. 6,031,019) in view of Meyrick et al (U.S. Patent No. 6,344,497), Kiritani et al (U.S. Patent No. 4,665,411) and either JP 03231975 or JP 09059552, for the reasons set forth in paragraph (5) of the Office Action. Claim 16 was rejected under 35 U.S.C. §103(a) as unpatentable of Tsutsumi et al in view of Meyrick et al, Kiritani et al, and either JP 03231975 or JP 09059552 as applied to claims 1, 4-11, 13, 14, 17 and 18 above, and further in view of Idei et al (U.S. Patent No. 5,302,437) for the reasons given in paragraph (6) of the Office Action. In addition, claim 12 was rejected under 35 U.S.C. §103(a) as being unpatentable over Tsutsumi et al (U.S. Patent No. 6,031,019) in view of Meyrick et al (U.S. Patent No. 6,344,497), Kiritani et al (U.S. Patent No. 4,665,411) and Suzuki et al (U.S. Patent No. 5,508,421) for

the reasons given in paragraph (7) of the Office Action. Reconsideration and withdrawal of these rejections are respectfully requested for at least the following reasons.

The present invention is directed to an ink-jet ink comprising a coloring composition containing coloring particulates that contain a specific vinyl polymer, a specific oil-soluble dye, and a specific organic solvent which is present in a specified amount. The aqueous ink-jet ink of the invention exhibits excellent color hue, dispersion stability, water resistance, light resistance and ink permeability and leaves no stain directly after printing. In polymer-dispersion type inks as described above, it is essential to establish stability of the coloring particulates dispersed in water, and hence, it is necessary to devise a specific combination of ingredients and/or a specific process for mixing of polymers, dyes and/or additives. In accordance with the present invention, a stable ink containing fine coloring particulates can be realized by combining specific polymer species with specific dye species and a specific organic solvent in specified amounts. It should be emphasized that the use of additives as in the prior art can be obviated by employing such a particular combination to prepare the ink-jet inks of the present invention.

Tsutsumi et al '019 is the primary reference used in all the rejections given in the Office Action. Tsutsumi et al '019 discloses an aqueous ink for ink-jet printing comprising an aqueous dispersion (emulsion) of fine polymer particles impregnated with a water-insoluble or sparingly water-soluble colorant (column 4, lines 13 to 15). This document teaches that the polymer-dispersion type aqueous ink can exhibit advantageous characteristics, including dispersion stability, by incorporating an amino acid or specific

compounds represented by formula (1), (2) and (3). Tsutsumi et al '019 lists, as the preferable polymer, a polyester or the like and further lists, as the applicable colorant, water-insoluble dyes including an oil-soluble dye and pigments. However, in these inks, dispersion stability is achieved by incorporating additives such as an amino acid (refer to Table 2, at columns 18 and 19). Comparative Example 3 in Table 2 shows that dispersion stability was not attained in the absence of the required additive even though the same polymer and oil-soluble dye were used.

The results summarized in Table 2 of Tsutsumi et al '019 reveal that it is not always possible to obtain a stable dispersion through a combined use of only the polymer and arbitrary dye (oil-soluble dye), unless the system contains an amino acid or the compounds represented by formula (1), (2) and (3). This is in contrast to the presently claimed invention as pointed out above.

The other documents relied upon by the Examiner do not supply the deficiencies of Tsutsumi et al '019. The combined disclosures of all the documents relied upon in the Office Action fail to suggest the present invention.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

The motivation to modify the prior art references must flow from some teaching in the art that suggests the desirability or incentive to make the modifications needed to arrive at the claimed invention. In re Napier, 55 F.2d 610,613; 34 U.S.P.Q. 2d 1782, 1784 (Fed. Cir. 1995). Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the claimed combination. In re Geiger, 816 F.2d 686,688; 2 U.S.P.Q.2d 1276, 1278 (Fed. Cir. 1987). As stated in In re Kotzab, 217 F.3d 1365,1370, 55 U.S.P.Q.2d 1313,1316-17 (Fed. Cir. 2000).

[m]ost if not all inventions arise from a combination of old elements. Thus, every element of a claimed invention may often be found in the prior art. However, identification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention. Rather, to establish obviousness based on a combination of the elements, disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the application [citations omitted].

Thus, even if each component of the claimed composition is individually disclosed in a reference, there must be some suggestion therein which would motivate those of ordinary skill to combine their individual teachings and arrive at the present invention. Also, there must be a reasonable expectation of success, i.e. achieving a stable composition which has the properties required for an ink-jet ink.

Applicants respectfully submit that the combined teachings of the cited art do not establish a *prima facie* case of obviousness. Accordingly, the various §103(a) rejections should be withdrawn.

From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order and such action is earnestly solicited. Should the Examiner have any questions concerning this paper or the application in general, she is invited to telephone the undersigned at (703) 838-6683.

Respectfully submitted,

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